

WHAT IS CLAIMED IS:

1. A vascular valve device, comprising:
an artificial valve for deployment within a
5 vascular passage, the artificial valve including
flexible material and at least one frame element;
said frame element adapted for removal after deployment
of said artificial valve in the vessel; and
said artificial valve device configured to provide a
10 valve function after removal of said frame element.

2. The device of claim 1, wherein said
artificial valve device comprises barbs for attaching
to a wall of the vessel.
15

3. The device of claim 1, wherein the flexible
material is a remodelable material.

4. The device of claim 1, wherein the flexible
20 material is collagenous.

5. The device of claim 1, wherein the flexible
material comprises an extracellular matrix material.

25 6. The device of claim 1, wherein the artificial
valve device comprises at least two removable frame
elements.

30 7. The device of claim 6, wherein the frame
elements are attached to one another during deployment
of the artificial valve device.

8. The device of claim 6, wherein the frame elements are unattached to one another during deployment of the artificial valve device.

5

9. The device of claim 1, wherein the frame element includes a member extending longitudinally along and circumferentially around the vascular passage after deployment and before removal.

10

10. The device of claim 6, wherein said frame elements each include a member extending longitudinally along and circumferentially around the vascular passage after deployment and before removal.

15

11. The device of claim 1, wherein said frame element is removably received within a sleeve defined in said flexible material.

20

12. The device of claim 11, wherein said flexible material is a remodelable material.

13. The device of claim 12, wherein the flexible material comprises an extracellular matrix material.

25

14. The device of claim 1, wherein the frame element is removably attached to the flexible material.

15. The device of any of claims 1-14, wherein the at least one frame element is coated with an antiproliferative composition.

30

16. The device of claim 15, wherein the composition comprises paclitaxel.

17. The device of claim 1, including at least one removable frame element and at least one non-removable
5 frame element.

18. The device of claim 17, wherein said non-removable frame element is biodegradable.

10 19. The device of claim 1, wherein said at least one frame element comprises a retrieval element adapted to reside away from a wall of said passage upon deployment of said device in said passage.

15 20. The device of claim 19, wherein said retrieval element comprises a hook or loop.

21. A method for providing a valve device in a vascular passage, comprising:
20 deploying within said passage an artificial valve device including a flexible material and at least one frame element removable after said deploying; and removing said frame element so as to leave said artificial valve device within said vascular passage
25 absent said frame element.

22. The method of claim 21, wherein said flexible material is a remodelable material.

30 23. The method of claim 21, wherein said remodelable material is collagenous.

24. The method of claim 23, wherein said collagenous remodelable material is an extracellular matrix.

5 25. The method of claim 21, wherein said artificial valve device comprises at least two frame elements, and said removing includes removing each of said frame elements.

10 26. The method of any of claims 21-25, wherein the at least one frame element comprises an antiproliferative composition.

15 27. The method of claim 26, wherein the composition comprises paclitaxel.

28. The method of any of claims 21-27, wherein the at least one frame element is removed after the artificial vascular device has become attached to the
20 vascular passage.

29. An artificial medical valve device, comprising:

25 at least one leaflet formed with a flexible material, said leaflet having an edge for contacting a wall of a bodily passage upon deployment of said valve device in the bodily passage;

means along said edge for attaching said edge to the wall of the bodily passage; and
30 at least one frame element arranged along said edge, said frame element configured to force said edge

against the wall for attachment upon deployment of the device, said frame element removable after said deployment.

- 5 30. A medical device for delivery of a flexible material into a vascular passage, comprising:
 a flexible material; a
 at least one frame element carrying said flexible material; and
10 said at least one frame element adapted for removal after deployment of said device in the vessel.